

CLAIMS

What is claimed is:

1. An electric motor, comprising:

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a plurality of stator sections, each stator
section including an outer housing, wherein
the plurality of stator sections are
mechanically and electrically coupleable to
form a stator of a desired length; and

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a rotor, disposed within the plurality of stator
sections.

- 15 2. The electric motor as recited in claim 1, wherein
the plurality of stator sections includes:

a first stator section, having a plurality of
conductors extending longitudinally
therethrough;

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a second stator section, electrically coupleable
to an electrical power source and to the
first stator section; and

a third stator section, electrically coupleable to
the first stator section;

5 wherein electricity flowing through the plurality
 of stator sections produces a magnetic field
 that imparts rotative motion to the rotor.

3. The electric motor as recited in claim 1, wherein
10 at least some of the plurality of stator sections are
 fluidicly coupleable to allow a fluid flow therethrough.

4. The electric motor as recited in claim 2, wherein
 the first stator section and the second stator section are
15 fluidicly coupleable to allow fluid to pass between the
 first and the second stator sections.

5. The electric motor as recited in claim 2, wherein
 the second stator section is fluidicly coupleable to an
20 external device.

6. The electric motor as recited in claim 1, further comprising a plurality of seals disposed between stator sections.

5 7. The electric motor as recited in claim 1, wherein at least one stator section includes a plurality of conductors terminating at a plurality of corresponding protrusions.

10 8. The electric motor as recited in claim 7, wherein at least one stator section includes a plurality of conductive elements configured for engagement with the plurality of corresponding protrusions when the stator sections are mechanically coupled.

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9. The electric motor as recited in claim 8, wherein each conductive element includes a hollow receptacle sized to received a corresponding protrusion.

20 10. The electric motor as recited in claim 1, wherein at least one stator section is coupled to an adjacent stator section by a separate coupling device.

11. The electric motor as recited in claim 10, wherein the coupling device is configured to mechanically and electrically couple the at least one stator section to the adjacent stator section.

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12. The electric motor as recited in claim 10, wherein each coupling device includes a plurality of receptacles to receive a corresponding plurality of protruding conductors.

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13. The electric motor as recited in claim 1, wherein each stator section outer housing includes at least one of a threaded collar and a threaded end.

14. A submersible pumping system, comprising:

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a submersible electric motor, including:

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a plurality of modular motor sections, each motor section includes a stator section and a housing section, wherein the modular motor sections are mechanically and electrically coupleable to form a motor of a desired length;

a rotor disposed within the plurality of
modular motor sections; and

5 a submersible pump, drivingly coupled to the
rotor of the submersible electric motor.

15. The submersible electric motor as recited in claim
14, wherein the plurality of modular motor sections

10 includes:

a first stator section, having a plurality of
conductors extending longitudinally
therethrough;

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a second stator section, electrically coupleable
to a source of electrical power and to the
first stator section; and

20 a third stator section, electrically coupleable to
the first stator section;

wherein electricity flowing through the plurality
of stator sections produces a magnetic field
that imparts rotative motion to the rotor.

5 16. The system as recited in claim 15, further
comprising a motor protector, wherein the first, second and
third stator sections are fluidicly coupleable so as to
allow fluid to pass between the first stator section and a
motor protector.

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17. A method for facilitating the assembly of a rotary
electric motor, comprising:

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manufacturing a plurality of modular motor
sections that are mechanically and
electrically coupleable to at least one other
of the plurality of modular motor sections;

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determining a desired motor length for a given
application;

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assembling an appropriate number of modular motor sections to form a stator of the desired length;

5 disposing a rotor within the plurality of modular motor sections; and

mechanically and electrically coupling the plurality of modular motor sections.

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18. The method as recited in claim 17, further comprising forming a plurality of longitudinal slots through each stator section; and disposing an electrical conductor through each longitudinal slot.

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19. The method as recited in claim 18, wherein forming includes disposing a conductive element in a polymeric insulating material; and further comprising terminating the conductive element at a terminal end designed for engagement
20 with an electrical conductor of a next adjacent modular motor section.

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20. The method as recited in claim 18, further comprising forming a coupling device having opposing plug regions into which a pair of modular motor sections may be plugged to form an electrical connection therebetween.

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